

REMARKS

Claims 1-19 are pending in the present Application. Claim 6 has been canceled, claims 1-3 have been amended, and no claims have been added, leaving Claims 1-5 and 7-19 for consideration upon entry of the present Amendment. Please note that where reference is made to the Specification, the version referred to is that published as International Patent Application publication no. WO/2004108823.

Amendments to Claims

Claims 1 and 2 have been amended to remove the term “large diameter” and Claims 1 and 3 have been amended to remove the term “small diameter”, and each of these claims has been amended as appropriate to explicitly describe large diameter as “having an average particle size of 2500 to 5000Å”, and small diameter as “having an average particle size of 500 to 2000Å”. Support for these amendments can be found in Claim 6, canceled herewith.

No new matter has been introduced by these amendments.

Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejection under 35 U.S.C. § 112, second paragraph

Claims 1-19 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the terms “large diameter” and “small diameter” were considered indefinite, and hence each was replaced by a specific range of particle sizes to define “small diameter” and “large diameter”. Claims 1-3 should accordingly be acceptable to the examiner thereby solving the rejection under 35 U.S.C. 112, second paragraph.

Claims 1-3 were amended by replacing “particle size” with “average particle size.” Please note that generally, average particle size means number average particle sizes. See Specification at e.g., p. 16, lines 17-18; p. 26, lines 9-10, and p. 28, lines 2-5 which discloses that the method used involved a NICOMP laser light scattering device, which

provides routine particle size data as number average particle size).

Claim Rejections under 35 U.S.C. § 103(a)

Claims 1-19 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,683,815 (“Leiss”) in view of any one of U.S. Patent No. 4,224,419 (“Swoboda”) or U.S. Patent Application Publication No. 2003/0105225 (“Breulmann”). Applicants respectfully traverse this rejection.

Leiss discloses a multiphase thermoplastic comprising an elastomer modified thermoplastic comprising acrylonitrile-styrene-acrylate ester (ASA) having 25-80 wt% of the acrylic ester, wherein the hardness of the ASA is controlled by inclusion of a modifier and polymer sufficiently compatible with the ASA, e.g. SAN, methacrylate-butadiene-styrene copolymer, etc. Abstract; Col. 4, lines 8-14.

Swoboda discloses improved coloring by use of bimodal particle size distributions of ASA. Col. 3, lines 31-42.

Breulmann discloses improved mechanical properties by use of large and small particles where less than 40% by weight of particles present in any particle size range of width 50 nm. See paragraph [0024]. Breulmann discloses that large and small particle sizes of 50 nm width of up to 1000 nm particle size. Paragraph [0025]. The composition of Breulmann includes a second component including SAN. Paragraph [0062].

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, or knowledge generally available in the art at the time of the invention, must provide some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). “A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). To find obviousness, the Examiner must “identify a reason that would have prompted a person of ordinary skill in the art in the relevant field to combine the elements in the way the claimed new invention does.” *Id.*

The acrylate-styrene-acrylonitrile thermoplastic resin composition as claimed is produced by blending an acrylate-styrene-acrylonitrile (ASA) resin with a terpolymer of butadiene-styrene-methylmethacrylate and an alkyl acrylate copolymer, having desirable basic physical properties such as good weatherability and appearance properties, and scratch resistance, color stability and gloss.

Applicants respectfully assert that the combination of Leiss with Swoboda and/or Breulmann fails to teach all elements of the instant claims, fails to provide a suggestion or incentive that would lead one skilled in the art to combine these references, and further that there is no reasonable expectation for the success for the combination.

Even though Leiss discloses polymers which are compatible with ASA, e.g. SAN, methacrylate-butadiene-styrene copolymer, etc. (Col. 4, lines 8-14), it would not have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to improve appearance properties such as scratch resistance, gloss, color, as well as basic physical properties such as impact strength, thermal resistance, flowability and weatherability, as compared to the conventional ASA resins. Leiss discloses properties of tensile strength, tensile elongation, and elongation at break, but fails to disclose the properties claimed in the instant claims. Breulmann fails to disclose butadiene-styrene-methylmethacrylate (MBS) resin, or an amount of MBS resin of 10 to 30 parts by weight, and hence fails to remedy this deficiency in Leiss. Further, Swoboda discloses a combination of polymers A, B, and C, each of which contains a styrene-acrylonitrile component, where C is SAN or alpha-SAN. Col. 2, lines 28-60; Col. 7, lines 53-62. However, Swoboda also fails to disclose either MBS or an amount of MBS, and hence also fails to remedy the deficiencies of Leiss. Further, no combination of Breulmann and Swoboda with Leiss teaches this limitation, or provides a suggestion or incentive that would lead one skilled in the art to include MBS in an amount of 1 to 30 parts by weight, as claimed in instant Claim 1.

Blending butadiene-styrene-methylmethacrylate copolymers in the ASA desirably and surprisingly improves scratch resistance, gloss, color tone and impact strength at low temperature impact and blending a small amount of an acryl acrylate copolymer additionally has been found to improve color tone, appearance properties and impact strength, as seen in

the instant Examples. Accordingly, as there would be no expectation of the combination of these properties, it would not be expected by one skilled in the art that use of the disclosed amount of components (1) to (5), as claimed in Claim 1, would produce such a combination of properties.

Hence, for at least the above reasons, Claim 1 and its dependents are not obvious over the combination of references and should be allowable. Reconsideration and allowance of the claims are respectfully requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By: /Dana A. Gronbeck/
Dana A. Gronbeck
Registration No. 55,226

Date: August 22, 2008
CANTOR COLBURN LLP
20 Church Street, 22nd Floor
Hartford, CT 06130-3207
Telephone (860) 286-2929
Facsimile (860) 286-0115
Customer No.: 23413